

Zeus User Meeting

Sept 19th, 2012

Agenda

- Upcoming Events
- Better performance using X (FreeNX)
- Thread safe OpenMP applications
- Updates on DTN
- Updates to /public data transfer
- Using /tmp on compute nodes
- Submitting help tickets
- Known Issues
- Q&A

Upcoming Events

- Moving to monthly planned down
 - First Tuesday of the month
 - Will work around holidays
 - Will work with users with extenuating circumstances
- Down time on 10/3 (exception this month)
 - HPSS software upgrade
 - Security patching
 - Moab upgrade
 - File system performance testing
 - Most likely duration 8-10 hrs.

Zeus System Metrics

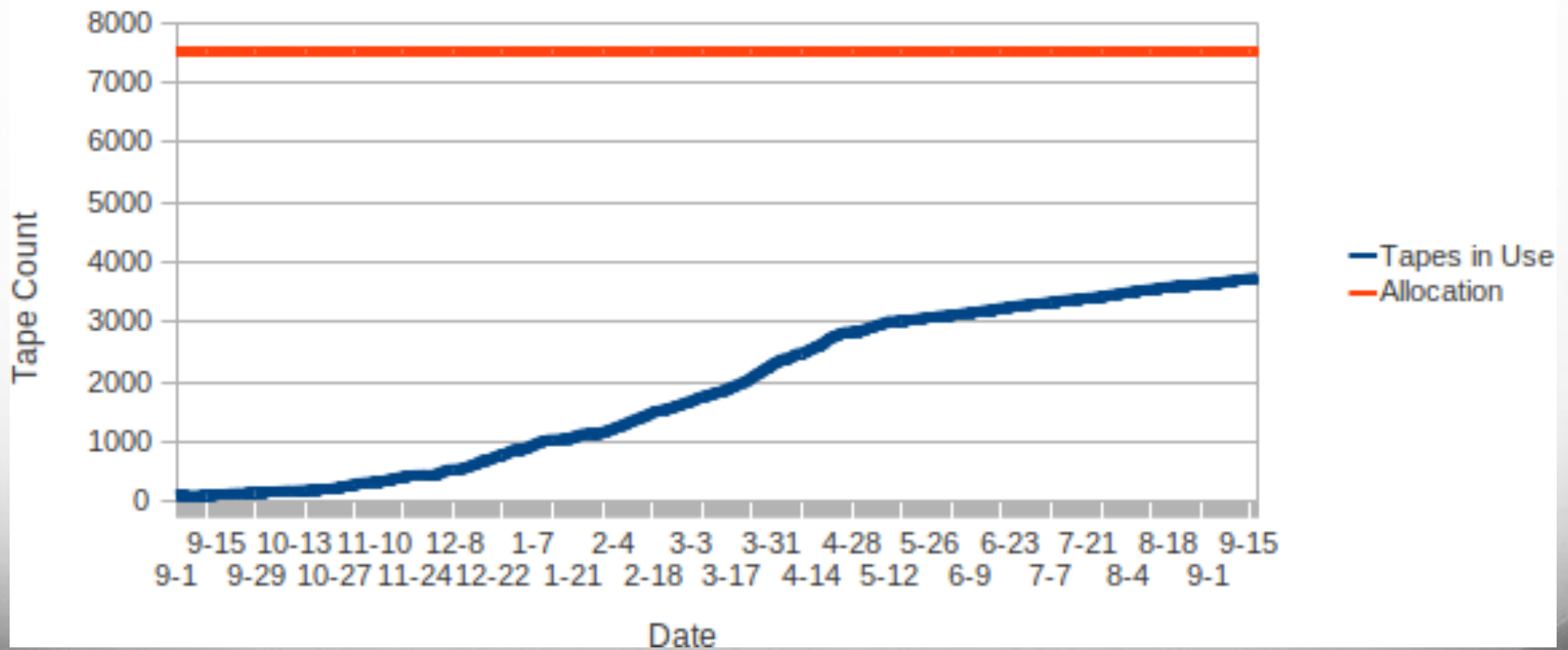
Sept 3rd – Sept 17th

Project	TotalCoreHrs	TotalJobs	BatchCoreHrs	BatchJobs	WindCoreHrs	WindJobs
gm	2762313	24146	1005971	11145	1756342	13001
ada	1072668	63905	1072668	63905	0	0
gefs	877522	72525	877522	72525	0	0
gfdloceans	714749	6573	714749	6573	0	0
rm	576734	27268	576734	27268	0	0
nrtrr	343859	177302	343859	177302	0	0
rtfim	313005	8460	313005	8460	0	0
cmp	289594	2116	285253	2114	4341	2
jcsda	236898	96198	144840	93476	92058	2722
isp-1	188332	475	161159	387	27173	88
wrf-chem	181333	632	181333	632	0	0
rcc21	117927	1671	92008	1406	25919	265

Utilization over 2 week period: 87.2%

HPSS Metrics

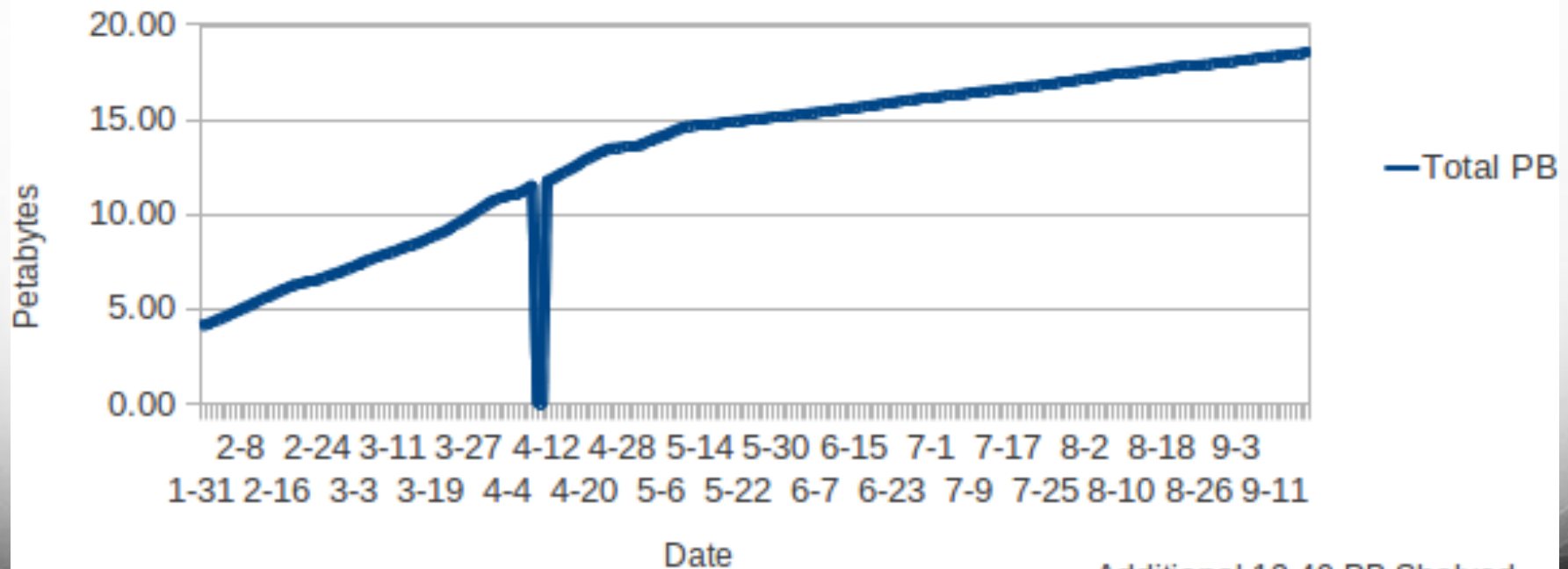
Tape Usage



HPSS Metrics

NESCC HPSS DATA On TAPE (Online)

Storage Classes 11/12/13



Additional 12.49 PB Shelved

Better Performance Using X

- FreeNX is now installed on Zeus, ready for friendly users.
- Biggest outstanding issue
 - Most all Mac OS X systems are upgrading to new version which is not supported by FreeNX client. New beta test client being tested.
- Looking for friendly users to test the final configuration.
 - If you are interested, please send a help ticket to rdhpcs.zeus.help@noaa.gov with your request.

Updates to DTN

- Transfers from partner sites through the Zeus DTNs were slow or unstable.
- We have change network settings to work around this problem.
 - We disabled the use of Jumbo frames
- This change has been tested. External sites now can successfully transfer data.
 - Minimal to no loss an maximum transfer speeds.

Use of /tmp on Compute nodes

- We have had some cases where serial jobs have failed because of other users using the /tmp filesystem.
- The /tmp files system is in memory only. It is not to be used by user jobs.
 - Your /tmp space is in your project directory, place your files and maintain them there.
- If use of /scratch1 or /scratch2 for this purpose is not adequate, please send a ticket to the help system explaining why, and we will work to solve your issue.

Thread Safe OpenMP applications

- User was reporting non-reproducible (not bitwise exact) answers with GFS.
- The problem was tracked down to functions that were called within OpenMP sections that were not themselves compiled with `–openmp`.
- This lead to code that was not thread-safe.
- If you are using OpenMP, use `–openmp` on all source files if they are called from OpenMP sections.

For more details:

https://nescdocs.rdhpcs.noaa.gov/wiki/index.php/Using_the_Compilers#Thread-safe_compilation

Submitting Help Tickets

- Please help us help you better, See:
https://nesccdocs.rdhpcs.noaa.gov/wiki/index.php/Requesting_Help
- Please always send the specific details as to what you are seeing including:
 - Job Number
 - Location of output files
 - Location of batch script
- Without this information we may not even know who to assign to the ticket, resulting in additional emails with the user to obtain the information.

Known Issues

- Details of issues and current status can be found at:
 - https://nescdocs.rdhpcs.noaa.gov/wiki/index.php/Known_Issues
 - We'll take a look at this site...

Any Questions?